The CHEMIST

Publication of
THE AMERICAN INSTITUTE OF CHEMISTS, INC.
V. F. KIMBALL, *Editor*, 233 Broadway, New York City

VOLUME XVIII MARCH, 1941 NUMBER 3

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THE AMERICAN INSTITUTE OF CHEMISTS
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233 Broadway
New York, N. Y.

Entered as second class matter April 8, 1936, at the Post Office at New York, N. Y., under Act of August 24, 1912.
Issued monthly except in June, July and August at 233 Broadway, New York, N. Y.
Subscription price, $2.00 a year. Single copy, this issue 25 cents
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Nineteenth Annual Meeting

of

The American Institute of Chemists

at

Wardman Park Hotel

Washington, D. C.

May 17, 1941

PROGRAM

11:00 A.M. Registration. Main lobby.

12:00 Noon Luncheon meeting of the National Council, Adams Room.

2:00 P.M. Speaker: Donald H. Andrews. Defense and the Professional Education of Chemists.

3:30 P.M. Annual Business Meeting. Franklin Room.

7:00 P.M. Banquet. Metronome Room.

Presentation of the Medal

of

THE AMERICAN INSTITUTE OF CHEMISTS

to

DR. HENRY G. KNIGHT

Chief, Bureau of Agricultural Chemistry and Engineering
United States Department of Agriculture

Speakers

DOCTOR HARRY L. FISHER

Vice President HENRY A. WALLACE
Presentation of Medal

DOCTOR HENRY G. KNIGHT
Acceptance

Please make your reservations now. A reservation card appears on page 98, for your convenience.

Medal Award to Dr. Henry G. Knight

THE MEDAL of THE AMERICAN INSTITUTE OF CHEMISTS, presented annually for outstanding service to the science of chemistry and the profession of chemist in America, will be awarded on May 17, 1941, to Doctor Henry G. Knight, chief of the Bureau of Agricultural Chemistry and Engineering of the United States Department of Agriculture.

The award is made in recognition of Doctor Knight's outstanding accomplishments in the field of agricultural chemistry, and his executive and creative ability as administrator of the four regional research laboratories recently established by Congress to search for new and wider industrial outlets for farm products.

Dr. Knight was born in Kansas, the son of a Pony Express Rider.

CHEMISTRY HALL LIBRARY

He overcame the hardships of his early youth through industry, initiative, and ability, and received the A.B. and M.A. degrees from the University of Washington, and the Ph.D. degree from the University of Illinois. He was director of the Experiment Station and dean of Agriculture of the University of Wyoming, Oklahoma Agriculture College, and West Virginia University. He was also Honorable Fellow at Cornell University in 1921-22. His published monographs include writings on qualitative analysis; research work on potable waters, the effect of alkali upon seeds, food adulterations, Wyoming forage plants, soil nitrogen, wool, poisonous plants, the effect of alkali upon cement drainage experiments, digestion experiments, and soil acidity.

The four regional farm products research laboratories of the Department of Agriculture, located at Philadelphia, Pennsylvania; New Orleans, Louisiana; Peoria, Illinois, and Albany, California, are under Dr. Knight's direction. These laboratories are doing active research on many of the major farm crops, particularly the surplus crops, to find new and wider industrial uses for them. The laboratories embrace a total research staff of more than eight hundred chemists.

The agricultural research work now being undertaken by the Department of Agriculture under Dr. Knight's intelligent supervision will be of increasingly great importance to the economic stability of the United States. It offers a solution to our present problem of the use of the agricultural wealth of this country; it will place the farmer in his rightful position as a creator of wealth; it will supply our industries with raw materials and it will prevent the waste of basic resources.

The INSTITUTE is happy to recognize at this time a man whose present attainments fit him so eminently to lead this nation to a greater future through the use of its tremendous possibilities for agriculture.

THE AMERICAN INSTITUTE OF CHEMISTS
233 Broadway, New York, N. Y.

I shall attend with guests, the Annual Meeting ☐ Banquet ($2.50) ☐ of the American Institute of Chemists, to be held May 17, 1941, at the Wardman Park Hotel, Washington, D. C. Please make reservations.

. . . . . .
(Signature)

Chemist Appointed to Pennsylvania Council on Defense

A bill providing for a State Council on Defense has recently been passed by the Pennsylvania Legislature and signed by the Governor. This legislation provides for a council of eleven, with extraordinary powers, possibly extending, in the event of an emergency to operation of plants within the State. Eight members of the Council are officials of the Commonwealth as provided in the Bill, the other three, private citizens.

Joseph W. E. Harrisson, president of the Pennsylvania Chemical Society, upon the suggestion of the Legislative Committee, headed by Dr. George H. Young of Pittsburgh, recommended to the Governor, President of the Senate, and Speaker of the House, the appointment to this Council of at least one citizen member thoroughly trained and experienced in the field of chemistry and engineering. Recognizing the need for such experience being available, since many of the problems that will confront the Council will without doubt be of a technical nature, Senator Ealy, President of the Senate, appointed Webster N. Jones, Director of Engineering, Carnegie Institute of Technology, Pittsburgh, to be a member of the Council.

It is gratifying to note that the Pennsylvania Legislature has thus recognized the importance of appointing a thoroughly trained, experienced chemist and engineer to the State Council on Defense, to advise on the many technical problems which will confront this Council.

The president of the Pennsylvania Chemical Society, Joseph W. E. Harrisson, F.A.I.C., is to be commended for his part in suggesting this important action to the Governor of the State. Such an appointment is a definite forward step in accordance with one of the objectives of THE AMERICAN INSTITUTE OF CHEMISTS—public recognition of the importance of the chemist as a contributor to progress in every phase of daily living.

Chemist Advisory Council Wins Support of Washington Chemists

Frank O. Lundstrom, F.A.I.C. coöperating chairman of the Washington Section of the Chemist Advisory Council, assisted in arranging a joint meeting of the Washington Section of the American Chemical Society and THE AMERICAN INSTITUTE OF CHEMISTS, at the Cosmos Club, Washington, D. C., on April tenth. Frank Breyer and M. R. Bhagwat discussed the objectives and services of the Chemist Advisory Council, and requested every chemist in that area to support its activities. Washington chemists expressed enthusiasm and willingness to support this council on professional problems.

National Research Council Advisory Committee

The Office of Production Management, Washington, D. C., advises that as a result of its increased need for advice on metals and minerals, it has been necessary to reorganize and enlarge the scope of the National Academy of Sciences—National Research Council Technological Committee on Manganese, Tin Smelting and Tin Recovery.

A general Committee, designated as the National Academy of Sciences—National Research Council Advisory Committee on Metals and Minerals, has been organized under the general chairmanship of Dr. Clyde Williams, director of the Battelle Memorial Institute. This committee was created to facilitate rapid and effective handling of the wide variety of problems presented.

Dr. Gilbert E. Seil, F.A.I.C., 18 Radcliff Road, Cynwyd, Pennsylvania, has been appointed chairman of the Ferrous Minerals and Ferroalloys Group of this general advisory committee. Other members of this committee are: Dr. A. C. Fieldner, (Secretary of Group), chief, Technologic Branch, U. S. Bureau of Mines; Mr. Ralph Bowman, Republic Steel Company, Cleveland, Ohio; Dr. Frederick G. Cottrell, 3904 Ingomar Street N. W., Washington, D. C.; Mr. James Critchett, vice president, Union Carbide and Carbon Research Laboratories, New York, N. Y.; Dr. John V. N. Dorr, president, The Dorr Company, New York, N. Y.; Dr. Charles H. Herty, Jr., metallurgist, Bethlehem Steel Company; Dr. Donnel F. Hewett, principal geologist, U. S. Geological Survey; Dr. John Johnston, director of research, U. S. Steel Corporation, Kearny, New Jersey, and Mr. Enoch Perkins, Mutual Chemical Company of America, New York, N. Y.

The Young Chemist and the Government Service

By **Louis Marshall, F.A.I.C.**

The nineteenth and concluding number of a series of articles on the opportunities for chemists in the Government Service.

ALL OF the positions in chemistry which have been enumerated, from junior chemist to head chemist, are included in the series known officially as the "Professional and Scientific Service." Almost every profession is represented in this classification, and each is given a code number. For example, the number for chemistry is 451, for bacteriology, 406; for plant physiology, 420; for mathematics, 453; and so on. The symbol which is used to designate all positions in this series is the letter "P". A junior chemist position is thus identified as P-1-451; assistant chemist, P-2-451; and head chemist P-7-451. Similarly, the position of junior mathematician is identified by the symbol P-1-453. The salary range of all employees in the P-1 classification, whether they are chemists, or physicists, or architects, or physicians, is the same; $2,000 to $2,500 per year. Likewise, the salary range of the P-2 group is $2,600 to $3,100; P-3, 3,200 to $3,700; P-4, $3,800 to $4,400; P-5, $4,600 to $5,200; P-6, $5,600 to $6,400; and for the P-7 grade, the range is $6,500 to $7,500. The principle guiding this elaborate system of personnel classification is that the basic qualifications for all positions in the P-1 grade are similar, as are the duties and responsibilities of the work. This line of reasoning holds for the other grades as well.

There is another very important Service to which young chemists may be appointed. It is known as the "Subprofessional Service" and is intended for those who desire to become assistants in the scientific laboratories of the Government. Almost every Government laboratory has positions of this type. They differ from positions in the Professional and Scientific Service, not only in the duties and responsibilities of the work, but also in the fact that college graduation is not a prerequisite to appointment. Many of these jobs are of a responsible

nature and are filled by competent technical men and women who are known as physical science aides. The symbol of this series is "SP". The lowest grade in the series is the position of Minor Physical Science Aide, SP-1-404. The minimum qualifications for jobs of this type are: "Training equivalent to that represented by the completion of at least two years of high school work, including at least a one year's course in physical science; sufficient knowledge of physical science to understand its ordinary nomenclature and to be able to follow instructions and directions; carefulness; interest in scientific work and capacity for development". As examples of some of the operations carried out by a minor physical science aide, one can cite the setting up of ordinary laboratory apparatus; the reading of simple laboratory measuring instruments, such as hydrometers; and the preparing of representative samples of coal, ores, etc. from large quantities of the material. The salary ranges from $1,020 to $1,320 per annum, and all candidates for this, as well as the higher grades of the Subprofessional Service are required to take competitive written examinations.

The next higher grade in the series is that of Under Physical Science Aide, SP-2-404. The minimum qualifications for the position stipulate training equivalent to that represented by graduation from high school. The laboratory operations carried out by a person in this grade are more difficult than those required of a minor physical science aide, and the salary attached to the position is higher, ranging from $1,260 to $1,560 per annum.

The position of Junior Physical Science Aide, SP-3-404, is the next higher one in the Subprofessional Service. The work required of an employee in this grade is such as can be done by one whose preliminary training is represented by graduation from high school or its equivalent, and who has also had at least one year of practical experience in a scientific laboratory. Examples of the work of a junior physical science aide are: To prepare reagents and stock solutions; or to carry out filtrations, evaporations, and distillations; or to help in setting up complex laboratory apparatus. In metallographic laboratories, he learns how to prepare specimens for microscopic examination, and so on. The annual salary of a junior physical science aide ranges from $1,440 to $1,740.

The next higher grade in the series is that of Assistant Physical Science Aide, SP-4-404. An employee in this classification is expected to perform subprofessional work of a somewhat difficult nature. For

example, he may do the routine parts of the chemical analyses of such commodities as flavoring extracts, patent medicines, paints, pigments, asphalts, etc. The minimum qualifications for positions in this grade are: Graduation from high school, with courses in science, at least two years of practical experience in a chemical laboratory; and the possession of a working knowledge of the nomenclature and important laboratory methods of chemistry. The salaries of persons in this classification range from $1,620 to $1,920 per annum.

The next step in the advancement of a person in the Subprofessional Service, leads to the position of Physical Science Aide, SP-5-404. A worker in this grade is expected to carry out chemical analyses requiring a high degree of skill or a thorough knowledge within a limited field. For example, depending upon the laboratory to which he is assigned, he may work on Portland cements, iron, steel, limestone, or paints. The minimum qualifications for the grade are: Graduation from high school with courses in physical science; one year of college work in chemistry, or equivalent training; and two years of practical experience in a laboratory which must have provided a good detailed working knowledge of the more important laboratory methods of chemistry. The annual salary of a physical science aide ranges from $1,800 to $2,100.

The grade of Senior Physical Science Aide, SP-6-404 follows: This position calls for a considerable degree of manipulative technique, and in some cases it involves the supervision of a small number of physical science aides and others of lower grades. In certain laboratories, employees in the Senior group assist scientists in the study of technical methods of extracting, refining, and analyzing volatile and nonvolatile oils or other compounds of medicinal or technical value found in plants. The work requires ability to carry out difficult subordinate technical tasks. In other laboratories, such as those dealing with the assay of precious metals, the senior physical science aide prepares the samples for assay, and performs certain other operations necessary for the quantitative determination of gold and silver in ores.

The minimum qualifications for the grade are: High school graduation with courses in physical science; two years of practical experience in a laboratory which must have provided a thorough knowledge of the technical methods of chemistry. The salary range of employees in this classification is the same as that for junior chemists; $2,000 to $2,500 per annum.

The highest position in the series is that of Principal Physical Science Aide, SP-7-404. Very difficult and responsible subprofessional work in chemistry, requiring a fine degree of manipulative technique, is expected of an employee in this grade. One of his duties may be to supervise a small number of senior physical science aides and others of lower grades. In a laboratory specializing in the assay of gold and silver, he must be able to use the precision balances which are usually sensitive to 0.01 mg. and he must be able to perform the other operations required in assay work, such as cupellation, inquartation and parting. The educational requirements of the position are: High school graduation and two years of college work in chemistry or training equivalent thereto. The experience requirements stipulate three years of practical experience in a laboratory. The candidate must show a thorough practical knowledge of the technical methods of chemistry and a general knowledge of a limited phase of the science; as for example, the methods used for the determination of precious metals. A principal physical science aide receives a salary which ranges from $2,300 to $2,800 per annum.

A study of the positions in the Subprofessional Service reveals, as is to be expected, not only a progressive increase in the duties and responsibilities of the higher grades, but also an increase in the minimum qualifications for eligibility thereto. It must be observed, however, that in actual practice there is no strict line of demarcation between the various grades. For example an assistant physical science aide who has worked in a Government laboratory for a number of years, often does work of such difficulty as would, technically speaking, be expected of an employee in the principal grade. Indeed it would be difficult to conceive of an efficiently functioning, well-managed laboratory in which the various lines of work were strictly demarcated. The official specifications defining a particular grade are merely for the purpose of illustrating the type and quality of work that is ordinarily performed by an incumbent in that grade. Many of the employees in the Subprofessional Service are persons who have had a great deal of experience, and who are quite capable of doing the work of chemists. The chief obstacle to their entrance into the Professional and Scientific Service is the lack of a college degree. On the other hand, it may be pointed out that a candidate is occasionally taken from the junior chemist eligible list, and asked if he would accept an appointment to one of the grades of the subprofessional series. A person who wishes to be informed of the next examination in one of the grades of the

physical science aide series, may write to the United States Civil Service Commission, Washington, D. C. requesting to have his name kept on file for this purpose. It may be observed in this connection that under the stress of the national defense program there are many vacancies for chemists in the Professional and Scientific Service as well as in the Subprofessional Service which will have to be filled.

The method of selecting candidates for employment in the civil service, the merit system, is the fairest and most honest one that has yet been devised. It is the method which, more than any other, assures the appointment of men and women who are qualified to fill their jobs. It is the method which does not permit any irrelevant considerations to enter as a factor in appointments and it is the one which is eminently suited to a democratic form of Government. Any citizen of the United States is eligible to take a civil service examination, if he meets the requirements of the position for which the examination was called. The continual strengthening and broadening of this merit system should, in the interests of good Government, be the concern not only of those in the civil service, but equally, of all citizens. The machinery of Government runs smoother and serves better when it is operated by capable, trained personnel such as is provided by the merit system.

It is not to be denied, however, that a significant section of the American public holds the opinion that Government positions generally are manned by incompetents whose work is characterized by inefficiency. This opinion, fraught with so much mischief to the public good, rests upon a misconception that is easily uncovered. The misconception is that this section of the American public has grouped all Government employees in one category, whereas they should be divided into two broad classes. The first class which is constantly dwindling in size and importance, includes those who have obtained their positions by virtue of their wealth, social position, membership in fraternal orders, religious affiliations, political preferment, or similar reasons. The second group comprises those who, having passed competitive civil service examinations, and having complied with all of the other straightforward requirements of the civil service, have received appointments. With those who fall within the first group, this discussion is not concerned. Regarding the second group, the voluntary utterances of private personnel experts can be invoked, testifying to the efficiency, the loyalty, the general competence of the true civil servant. It is upon this latter group that there rests, in great measure, the responsibility for the immense task of conducting the business of Government.

In conclusion, one cannot refrain from attempting, even at the risk of incurring the reproach of sentimentality, an analysis of the abstruse concept of success. Chemistry deals with formulas. What is the formula for success? The old-fashioned virtues; those that are extolled in lullabies sung at the cradle are still the ones worth-while. Though the pursuit of paths shadowy and devious may lead to material wealth, it will not lead to that which is certainly of greater worth, the respect of your neighbor, your fellow man. And on the other hand, the earnest pursuit of the qualities of integrity, industry, diligence, resourcefulness, and personality will lead to the respect of your fellow man, but not necessarily to material wealth. If however, one other quality be added to those already enumerated, the attainment of both ideals can be practically guaranteed. The formula for success then reads: Integrity, industry, diligence, resourcefulness, personality, and the other quality,—luck.

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For additional Committees, please consult THE CHEMIST, October, 1940, page 329.

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---

February Meeting

The 177th meeting of the National Council of The American Institute of Chemists was held on February 19, 1941, at The Chemists' Club, 52 East 41st Street, New York, N. Y., at 6:30 o'clock P. M.

President Harry L. Fisher presided.

The following officers and councilors were present:

Messrs: E. R. Allen, Frank G. Breyer, Harry L. Fisher, Charles N. Frey, M. L. Hamlin, R. J. Moore, H. S. Neiman, W. T. Read, N. A. Shepard, M. Toch, A. W. Warth. Mr. M. R. Bhagwat, Dr. M. L. Crossley, Dr. W. D. Turner and Miss V. F. Kimball were present.

The minutes of the preceding council meeting were approved.

The Treasurer's report, covering the period from January 22nd to February 19th, showing total cash in banks and on hand of $3,837.09, with no bills payable, was read and accepted.

The present situation of The Chemist Advisory Council, its program, and plans for its future were discussed.

Upon motion made and seconded, the loan of $200.00 recorded in the minutes of the January 22, 1941, meeting of the Council was changed to a contribution of $200.00 to the Chemist Advisory Council.

Dr. Toch requested that a comparative statement of the Treasurer's report with the statement of the previous year be presented at the next meeting of the Council.

It was suggested that the annual report of the British Association of Chemists be published in THE CHEMIST, as some of its objectives are similar to those of THE AMERICAN INSTITUTE OF CHEMISTS.

Dr. Read reported for the Committee on Membership, to the effect that its work is being carried on satisfactorily by means of local committees.

Upon motion made and seconded, a vote of appreciation was given to the Washington Chapter for its splendid survey of the activities of chemists which appeared in the January issue of THE CHEMIST.

The Committee on Nominations reported its recommendations to fill the vacancies to be caused by the expired terms of three councilors, on May 1, 1941.

A letter from Simon Mendelsohn was read and referred to the Committee on Honorary Membership.

The Committee, appointed to consider chapter refunds, reported that it recommended that no change be made at present in the amount of chapter rebates but that the council consider the financial problems of each chapter and make special provision to take care of deficits when these are incurred in work beneficial to the INSTITUTE as a whole. Upon motion made and seconded these recommendations were adopted.

Mr. Bhagwat extended an invitation to each member of the Council to visit the offices of the Chemist Advisory Council to inform themselves about the work it is doing.

Upon motion made and seconded, Wednesday, March 5, 1941, was selected as the date for the next meeting of the National Council.

The following new members were elected:

FELLOW:

Becher, Harold
(1941), *Chief Chemist,* Peerless Fur Dyers, 214 West 26th Street, New York, N. Y.

Cowen, Theodore
(1941), *Lacquer Chemist,* Baer Brothers, Stamford, Connecticut.

Hanzely, Edward M.
(1941), *Analytical Chemist,* Crown Cork and Seal Company, Inc., Highlandtown, Baltimore, Maryland.

Ross, John
(1941), *Research Chemist,* Colgate Palmolive Peet Company, Jersey City, New Jersey.

Shaffer, Sherman Simpson
(1941), *Chief Chemist,* Baytown Refinery, Humble Oil and Refining Co., Baytown, Texas.

Sutherland, Leslie Thompson
(1941), *Chemical Advisor,* The Barrett Company, 40 Rector Street, New York, New York.

ASSOCIATE:

Melaccio, Frank
(A.1941), *Plant Chemist,* New York Quinine and Chemical Works, Inc., Brooklyn, N. Y.

The following applications to be raised from Associate to Fellow were approved:

Gordy, Edward L.
Opolonick, Nicholas
Royer, George Lewis
Russo, Michael
Whitney, William Bernard

There being no further business, adjournment was taken.

Applications for Membership

Final action will be taken by the National Council, at its meeting on Saturday, May seventeenth, on the following applications:

For Fellow:

Bahnsen, Monroe John
Assistant Director of Research, Ferro Enamel Corporation, Cleveland, Ohio.

Caryl, Coleman Reeves
Chemist, American Cyanamid Company, Stamford, Connecticut.

Diwoky, Fred F.
Foreman of the Asphalt Department, Standard Oil Company of Indiana, Wood River, Illinois.

Gladstone, Martell Maurice
Chemist, Emulsol Corporation, Chicago, Illinois.

Gray, Thomas Darius
Chemist, Western Sugar Refinery, San Francisco, California.

Johnson, Clarence Albert
Associate in Physiological Chemistry, University of Illinois, College of Medicine, Chicago, Illinois.

MacMasters, Majel Margaret
Associate Chemist, United States Department of Agriculture, Northern Regional Research Laboratory, Peoria, Illinois.

Metcalfe, John Delphin
Senior Research Chemist, Shell Oil Company, Inc., Houston, Texas.

Murray, James A.
Chief Chemist, Warner Company, Devault, Pennsylvania.

Olson, Harold Muschott
Chief Chemist, Philadelphia Plant, Harshaw Chemical Company, Philadelphia, Pennsylvania.

Pierce, Leo Frances
Director, L. F. Pierce Laboratories, Los Angeles, Calif.

Schofield, Francis
Chemist, National Paint, Varnish and Lacquer Association, Washington, District of Columbia.

Skett, Anthony
Director of Research, American Gum Importers Association, Inc., Brooklyn, New York.

Tauber, Henry
Research Biochemist, Schwarz Laboratories, Inc., New York, N. Y.

Silver, Raymond Peter
Research Chemist, American Cyanamid Company, Stamford, Conn.

For Associate:

Bradstreet, Raymond B.
Analytical Research Chemist, Standard Oil Development Company, Linden, New Jersey.

Cerda, Arthur Lionel
Chemical Engineer (research), Durez Plastics and Chemicals, Inc., North Tonawanda, New York.

Frishe, William Christopher
Instructor in Chemistry, Rochester Junior College, Rochester, Minn.

For Junior:

Doherty, Harry George
Research Chemist, Socony-Vacuum Oil Company, Paulsboro, New Jersey.

Hiler, Malvern Joseph
Research Chemist, Sharples Solvents Corporation, Wyandotte, Michigan.

To be raised from Junior to Associate:

Levinos, Steven
Research Chemist, Ansbacher-Siegle Corporation, Rosebank, Staten Island, New York.

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Carl H. Rasch, *Alternate*
News Reporter to THE CHEMIST, Margaret C. Swisher

The Niagara Chapter held the first meeting of the year at the Buffalo Museum of Science on January thirty-first.

After the dinner, Vice-Chairman A. F. Shepard announced that Chairman J. A. Camelford had been transferred to Cleveland. The Chapter regrets the loss of Mr. Camelford who has been a faithful member and worker.

The following committee appointments were announced:

Arrangements—F. L. Sievenpiper, D. Mack, L. M. Lawton, R. L. Perkins, L. A. Sontag.

Program—F. L. Koethen, G. W. Fiero, W. L. Hyden, C. F. Smith.

Membership—S. H. Hall, F. S. Allmuth, A. W. Burwell, G. J. Easter, W. W. Hawes, L. M. Lauer, L. M. Lawton, M. C. Taylor.

Public Relations—W. R. Sheridan, R. C. Benner, A. L. Hall, C. T. O'Connor.

Publicity—M. C. Swisher, A. C. Flueckinger, W. A. Smith.

Education—J. A. Handy, J. J. Eberl, F. N. Hopper, R. L. Perkins, J. E. Seubert.

Welfare—H. W. Post, S. T. Byers, F. H. Hafner, E. T. Ladd, R. B. Sheridan.

Professional Ethics—G. W. Fiero, A. C. Flentge, G. Monvid.

The guest speaker was Mr. Chauncey J. Hamlin, President of the Buffalo Society of Natural Sciences who told of the books that make up the collection at the Buffalo Museum known as

"Milestones of Science". This collection comprises first and early rare editions of the books epochal in the several fields of science. It includes two hundred of these great works, whose publication made revolutionary contributions to the advancement of science, and is one of the most complete collections in the world and the greatest in any public museum.

Mr. Hamlin showed and commented on first editions of Copernicus on *Astronomy*, *The Sceptical Chemist* by Robert Boyle, Euclid on *Mathematics* and William Harvey on the *Circulation of the Blood*.

The members spent a pleasant evening asking questions, looking over and reading these famous books.

The next meeting will be held at Niagara Falls on March twenty-eighth, when Dr. Harry L. Fisher, president of THE AMERICAN INSTITUTE OF CHEMISTS will be the speaker.

Pennsylvania

Chairman, Addison C. Angus *Vice-chairman*, Edward L. Haenisch

Secretary-treasurer, Harold A. Heiligman

1203 West Oak Street

Norristown, Penna.

Council Representative, Gilbert E. Seil

News Reporter to THE CHEMIST, Kenneth A. Shull

A meeting of the Pennsylvania Chapter was held at Houston Hall on the evening of Tuesday, January twenty-eighth.

Following the dinner, Mr. Kenneth E. Shull, chemist and bacteriologist with the Philadelphia Suburban Water Company, spoke briefly on "The Job of the Chemist in a Water Works". His talk was divided into two parts: First, a somewhat humorous account of the manner in which the ancients obtained their drinking water; and, second, an outline of modern methods of water purification, and the part played by chemistry and the allied sciences in controlling its purity.

Dr. Gilbert E. Seil reported on the doings of the National Council. Quite a discussion took place on the question of membership. It was suggested that the Membership Committee interview, as prospective members, each of the persons named on a list submitted by the Council.

The main speaker was Dr. J. C. Geniesse, supervising chemist with the Atlantic Refining Company. His subject was "Recent Developments in Petroleum, Fuels, and Lubricants".

Differences in the action of various types of lubricating oils for automobiles are not considerable under usual driving conditions. However, due to better roads being built (and other causes) cars are being driven at increasingly higher speeds, resulting in higher engine temperatures. It is a fact that the higher the temperature of the engine the more rapid does oil decomposition take place. And the acid products which are formed rapidly cause bearing metal corrosion. Under such rigorous driving conditions selection of the proper oil becomes an important problem.

There are several ways in which bearing metal destruction may take place: (1) Oil-acid corrosion, where decomposition of the oil by heat produces, among other things, naphthenic acid which, in turn, dissolves lead from Babbitt bearing metals. This type of corrosion has been observed to take place only under laboratory conditions; (2) copper corrosion, caused by poor crankcase ventilation. Sulfur trioxide and copper sulfide are among the products formed; and (3) fatigue failure, caused by some defect in the bearing metal.

Laboratory experiments have indicated that these conditions may be largely overcome through the use of different types of bearing metals. Those which have been tried include cadmium-silver and cadmium-nickel.

Certain oils will oxidize in the crankcase to form a varnish; others produce a sludge. Much progress has been made in eliminating these deleterious effects by modifying refining procedures, and by adding various substances to the oils in order to change their properties.

Dr. Geniesse discussed many other phases of the petroleum industry. His talk was amply illustrated with Kodachrome transparencies.

Washington

President, Albin H. Warth

Vice-president, L. F. Rader, Jr. *Treasurer,* L. R. Heiss

Secretary, Martin Leatherman
9 Quincy Avenue, Hyattsville, Md.

News Reporter to THE CHEMIST, T. H. Tremearne

Council Representative, Albin H. Warth

Advisory Committee

F. O. Lundstrom, *Chairman*
J. Bernard Edmonds
J. H. Hibben
L. N. Markwood
J. W. McBurney
A. R. Merz
W. H. Ross
J. F. Williams

The January meeting of the Washington Chapter was held on the seventh, at Wardman Park Hotel.

President Warth reported on the last council meeting and that President Fisher would attend our March fourth meeting which will be held at Wardman Park Hotel and will be preceded by a dinner.

The Chapter President also reported on his trip to the Chemist Advisory Council offices and urged the members to support, by contributions, its work. A generous response was made by the members.

Dr. Matthews, chairman of the Membership Committee, reported that no INSTITUTE members were at College Park, University of Maryland, and that the Committee was working toward establishing a representative membership at the near-by universities. Dr. M. S. Anderson and Miss Roland were made members of this committee.

Recent resignations from the chapter were discussed. Two classes seem to

be predominant, university professors and Government employees who are leaving Washington.

Mr. Lundstrom suggested that the Philadelphia Chapter should be invited to the Chapter's annual spring inspection trip in Baltimore, the date to be announced later. Mr. Lundstrom also concluded the report of the Issues and Objectives Committee and asked that the Committee be discharged. Dr. Warth announced that he wished to revise this committee and keep it active. Mr. Rader was appointed chairman of the Program Committee for functions of the general program for the year.

Mr. Lundstrom was given authority to proceed with the Student Medals Awards.

British Association of Chemists

The following minutes of the twenty-third annual meeting of the British Association of Chemists, as printed in *Chemistry and Industry*, Volume 59, page 851, December 21, 1940, may be of interest to show the progress of an organization whose objectives parallel in some respects those of THE AMERICAN INSTITUTE OF CHEMISTS.

The 23rd annual general meeting was held at the Manchester College of Technology at 3 p.m. on Saturday, November 30, Mr. A. J. C. Cosbie, chairman of Council, presided.

The minutes of the 22nd annual general meeting were taken as read and confirmed.

Increasing Strong Financial Position.

Mr. C. S. Garland presented the financial report in the absence of Mr. Woodcock (treasurer). He said that they could congratulate themselves that the accounts of the year's working again showed a balance in hand, as to the Unemployment Insurance Fund he need hardly draw attention to its fine achievement in having accumulated a reserve fund of £22,000. (Applause.)

Increase in Membership.

The chairman presented the annual report. He said that the net increase in membership is 152. This was an extremely satisfactory indication of the Association's progress, having regard to the high standard required for membership. The appointments service and the legal aid department had, as usual, done excellent work for members. Perhaps the most important step forward during the year was the appointment of the Association as the agent of the Ministry of Labour in connection with unemployment insurance of chemists. This was a most important landmark in the Association's history. It meant that every chemist, and in particular those younger men with a salary of less than £420 per annum, would find membership of the B.A.C. almost indispensable. Already there had been a very large number of enquiries concerning this question of professional and compulsory insurance.

Increased Unemployment Insurance.

Miss W. Wright presented the report of the Unemployment Special Purposes Committee. She alluded to the great service which Mr. J. B. P. Harrison had rendered to the Committee as its chairman.

The increased benefit of 2s. 6d. per

unit after five years' continuous subscription was to be continued.

Miss Wright alluded to the importance of the arrangement with the Ministry of Labour whereby the Association was to administer compulsory insurance on behalf of chemists. It was necessary that they should contract in immediately and sign the form of contract stating that insurance was to be paid through the B.A.C.

The following honorary officers were proposed and elected to serve for the ensuing year:

President—Prof. F. G. Donnan, C.B.E., F.R.S., M.A., F.I.C.

Registrar—Prof. E. C. C. Baly, C.B.E., F.R.S., F.I.C.

Treasurer—W. H. Woodcock.

Editors—H. T. F. Rhodes, M.I.E.I., and J. P. Lawrie.

Auditors—Messrs. Hughes & Allen.

The following resolution was then proposed:

"That the British Association of Chemists should join the National Joint Committee for Scientific Technical and Engineering Supervisory Staffs, and support it by every possible means."

Supporting the resolution Mr. Dooley said that he thought it was generally agreed that all scientific workers having interests in common ought to cooperate as closely as possible. It was for this reason that certain societies representing engineers and other scientists had proposed the formation of this Committee to consider ways and means for close cooperation. He thought that the British Association of Chemists should support this body.

The chairman said that whilst he was in favour of every form of coöperation which would advance the interests of chemists he was not sure that he understood in what way the Committee would forward these objects or how the B.A.C. would benefit.

Mr. Dooley said that he thought it would help to recruit chemists and increase membership.

Mr. Baker proposed an amendment: "That the British association of Chemists should cooperate with any National organization which, in the opinion of Council, can advance the economic or professional interests of British Chemists."

The speaker said that he was fully in favor of the kind of cooperation suggested by the chairman, but he thought the unamended resolution too narrow. The amendment was of a much wider character and he thought more in accordance with the general policy of the B.A.C.

Mr. F. Scholefield said that as an old member of the Association he must warn the meeting against steps which might dissipate the Association's energies. Schemes of this kind had been attempted in the past and had proved unworkable.

Mr. Dooley said that, for himself, he would be inclined to support the amendment but he could not well do so without further discussion with the promoters of the original resolution.

The amendment was then put by the chairman and carried by a large majority.

The meeting closed with a vote of thanks to the chairman which was carried with acclamation. A vote of thanks to the staff at head office recognizing their devotion to duty under present conditions was also passed with acclamation.

Prior to the meeting a lunch was held at the Manchester College of Technology. Mr. Cosbie presided and Dr. Walker of the College and Mr. Heap, Public Analyst of the City, were present as guests.

NORTHERN LIGHTS

By Howard W. Post, F.A.I.C.

General level of business in Canada in 1940 was twenty to twenty-five per cent ahead of 1939 and at highest point for twenty years.

Higher taxation was made for "sparing" dividends which, despite record business trend, were only 4.5 per cent greater than 1939.

Unemployment decreased as war and other industries absorbed 267,000 additional workers in the seven months, May-November.

Building at $329,000,000 for eleven months more than doubled the 1939 total and exceeded in value every year since 1930, factories for turning out war equipment and other government construction contributing largely to increase.

Wheat exports in eleven months were valued at $110,212,308 as compared with $83,009,379 in the same period of 1939; wheat flour export was $25,135,000 more than double that of 1939.

Railway carloadings were ten per cent higher than 1939; C. N. R. gross earnings improved twenty per cent, and C.P.R. earnings twelve per cent, over those of 1939. Great Lakes traffic was heavier.

Manufacturing gained forty per cent over 1939, reaching a new peak; iron and steel production was up fifty-eight per cent, textiles twenty-five per cent, newsprint twenty per cent.

Mineral production for 1940 expected to exceed $500,000,000 as compared with $474,600,000 in 1939 and $444,824,000 in 1938.

THE SCIENCE ANGLER

Kenneth E. Shull, A.A.I.C.

Ever since man first saw a firefly, a luminescent fish, or the phosphorescence of the sea he has been imbued with a desire to learn the mechanism behind this "cold" light and to use and control it at will.

Much progress was made toward a better understanding of the nature of "living" light when Dubois obtained from the luminous extracts of luminous organisms two substances, called by him luciferin and luciferase. These when mixed produce a beautiful glow simulating the light of living organisms.

Recently, one of our prophesizers has suggested the possibility of breeding organisms capable of building up super quantities of luciferin and luciferase—these to be extracted and the pure chemicals used to produce an efficient "cold" light. According to him it might also be possible to incorporate luminous organisms themselves in a water paint containing the necessary nutriment.

Perhaps a fantastic dream! But we feel sure it is safe to offer the prediction that someone, some day, somewhere, will discover a practical, superior imitation of living light.

The "tagging" of substances by means of radioactivity has found many practical applications.

Heretofore it had been supposed that plants could obtain nutrients through their roots only if the latter were imbedded in moist soil or in aqueous solution. That this is not always the case has been proven by introducing radioactive atoms of sodium and potassium along with the other necessary plant elements, and following their course through the soil and root by means of instruments capable of detecting radioactivity. It has been found that, at times, minerals will gain entrance into roots placed in perfectly dry medium.

Has the paint on your car become faded and moth eaten? Well, you shouldn't blame the radiant smile of Old Sol for, according to Mr. Wirshing of General Motors, the deterioration of automobile finishes is in reality due to dew. Experiments carried out over a period of years showed that most of the damage takes place during that period from midnight to noon when dew comes out from hiding and blankets all nature's and man's creations.

Bacteria fall when they hit the wall, that is, if the wall is coated with a new antiseptic paint developed by Foster D. Snell and his associates. This product contains, among other things, a compound of chlorine, which is responsible for the antiseptic properties.

Although not yet commercialized, this paint, or some modification of it, should find ready market for painting the interior of hospitals, food establishments, and other buildings in which freedom from pathogenic bacteria is essential.

BOOKS

THE THEORY OF ORGANIC CHEMISTRY, *An Advanced Course*, by Gerald E. K. Branch, Ph.D., Professor of Chemistry in the University of California, and Melvin Calvin, Ph.D., Instructor in Chemistry in the University of California. *Prentice-Hall, Inc.*, New York, 1941. xix + 523 pp. 15 x 22.8 cm. $4.00.

According to the authors "the structural theory of Kekulé has been the growth hormone of organic chemistry. This theory used the atom and the bond as its fundamental concepts. It assumed no knowledge of either the composition of the atom or the nature of the bond. In recent years, however, modern theories of atoms and bonds have nearly filled these lacunae.

"The deduction of the contents of organic chemistry from first principles with the aid of quantum mechanics is a goal to be reached; not an actual attainment. A simpler procedure is to incorporate G. N. Lewis' ideas of atoms and bonds with classical structural theory. The result of this alliance is a structural theory whose fundamental concepts are valence electrons and atomic kernels. This electronic structural theory, and its application to organic chemistry, is the subject matter of this book."

The chapter headings are: The development of structural chemistry, atomic structure, molecular structure,

group interaction, physical properties, equilibrium (acid strength), energy relationships in some other reactions, the rate factor in chemical behavior, the reactions of acids and bases with neutral substances (three-center reactions), and reactions of the double bond. Five pages are devoted to an author index, and twenty-five pages to the general index.

The subtitles of the various chapters are: Valence, structural isomerism, the persistence of structure, structural analogy, structural iteration, tautomerism, stereoisomerism, the constancy of valence, the nuclear atom, the Lewis atom, the quantum theory of the atom, electronic structural formulas, the electron pair bond in quantum mechanics, group interactions without considering resonance, conjugation, resonance and mesomerism, bond distances and angles, dipole moments, Raman spectra and force constants, color, equilibrium, acids and bases, acid strength and structure, acids without resonance, the fatty acids, unsaturated acids, the aromatic acids, miscellaneous acids, ionic resonance and the heat of formation, valence bond resonance and heat of formation, tautomerism, oxidation-reduction potentials, free radicals, *cis-trans* isomerism of olefins, equilibrium in the addition to the double bond, the variation of rate with concentration, the temperature coëfficient of reaction rate, transition state, molecular association, the quantum mechanical treatment, the mechanisms of the reactions, the strength of the reacting acid or base, the strength of the product acid or base, the middle group in the three-center reaction, inductive and tautomeric effects, the effect of branching chains, the effect of resonance on reaction rate, steric effects, the ethylenic double bond, the carbonyl double bond, conjugate systems, substitution reactions of benzene, and four-center reactions. Such an array of topics suggests both the scope and usefulness of this treatise of organic chemistry. It seems to be particularly fitted for advanced courses and for a reference volume.

The reviewer objects to the title on three counts: (1) it is believed that the development of *the* theory of organic chemistry "is a goal to be reached; not an actual attainment", (2) if the viewpoint championed throughout this book does represent *the* theory of organic chemistry, time and only time will vindicate the fact, and (3) the zeal of the authors in championing their viewpoint has caused them to "ignore on slight grounds" any viewpoint or theory that does not agree with their interpretation. Some justification for this, in their own words, is the fact that "they have attempted to keep a uniform point of view throughout rather than to produce a collection and evaluation of the mass of existing theories. This policy necessitates giving our opinions undue prominence. Ideas have been ignored on the slight ground that we do not agree with them. Controversial points have been left without any decision because we have not reached one. Nevertheless we believe our policy to be the correct one in dealing with so live a subject."

The book contains forty-nine figures, fifty-five tables, and is amply illustrated otherwise. It is written by organic chemists for organic chemists, and is deserving of most careful consideration by all who are interested in the theoretical background of organic chemistry.

—Ed. F. Degering, F.A.I.C.

Come to the Annual Meeting on May seventeenth.

THE SOCIAL FUNCTION OF SCIENCE, by J. D. Bernal, F.R.S. *The Macmillan Company*, 1939. 6" x 8½" 482 pp. Price $3.50.

The author, a physicist on the staff of Birkbeck College of the University of London, has incorporated a great deal of study, research, statistics, facts, and theories, not only from the sciences, but also from economic and social systems, to support his thesis that science must not be limited to a small group of scientists, but must reach out and become a part of the life of every individual even to vast economic and social changes.

Sixteen chapters bear the following titles: What Science Does; Historical; The Existing Organization of Scientific Research in Britain; Science and Education; Efficiency of Scientific Research; The Application of Science; Science and War; International Science; The Training of the Scientist; The Reorganization of Research; Scientific Communication; The Finance of Science; The Strategy of Scientific Advance; Science in the Service of Man; Science and Social Transformation; The Social Function of Science. The Appendixes contain figures concerning universities and societies (of Great Britain); the Government aided research; industrial research; war research expenditure; report of parliamentary science committee; the organization of science in France; science in the U.S.S.R.; project for scientific publication and bibliography (the project originally suggested in the United States by Watson Davis); report of the International Peace Campaign, Science Sub-commission, at the Brussels conference in 1936, and associations of scientific workers (British and American).

This work contains an interesting table which outlines the coördination which should exist between knowledge obtained in any one branch of science with all other branches of social or scientific study. For example the information gained in the field of theoretical physics should immediately be applicable to the fields of mechanics, sound, electricity, optics, nuclear physics, then directly upon engineering, theoretical chemistry, chemical industry, biochemistry and biology, and so into the field of sociological sciences such as archaeology, psychology, anthropology, economics; and indirectly to industrial planning, domestic engineering, agriculture, health service, and social control. Only through the close cooperation of one branch of science with every other branch of scientific industry and sociological science can the greatest benefits be given to humanity. The present lack of coöperation between various scientific fields holds back progress in individual fields. There is no good reason why economics as taught today should be based on misinformation in the anthropological field, for example, as was noticed recently in a new text book on economics.

A section devoted to "The Scientist Faces the Problem of War", is particularly interesting at this time since it was published just prior to Great Britain's declaration of war, and gives some interesting facts and figures on the actual work of British scientists to war needs. We find that more than one-third of that nation's total scientific expenditures were employed on war research during the years immediately preceding this book's publication.

Throughout the book we are given the impression that the closest attainment to accomplishing the goal of scientific benefits to humanity is that achieved by the system used in the U.S.S.R.

Though one may well disagree with that belief, every chemist interested in the impact of science on modern living will find much material for contemplation in this book. While we must regret the lack of scientific attitude shown by the choice of a premise and the massing of information selected only to support that premise, we still admire the amount of research which was undertaken to collect so much material on science, both historical and current, into one publication.

The value of science to applied scientific knowledge, the confusion in scientific publications, the lack of coördination in scientific groups, the lack of coöperation between the scientist in different branches, the limitation of scientific applications, are all pointed out. Mr. Bernal may not have a solution for these problems, but the material he has collected here, while mainly based on European scientists and scientific societies, may inspire Americans to give some constructive thought to the ways of using the achievements of science for the greater betterment of humanity.

YOU MIGHT LIKE CHEMURGY AS A CAREER. An occupational brief prepared by Western Personnel Service under the supervision of The University of California and in coöperation with the Works Progress Administration, 1941, 5½" x 8½", 15 pp., 25 cents.

This publication is one of a series of occupational briefs which have been written for students of western universities, in which chemurgy as a special branch of chemistry devoted principally to finding new industrial uses for agricultural products, is discussed and recommended.

The field for chemurgy in the United States, the qualifications and preparation required, the opportunities for its uses are briefly discussed. This excellent summary of the subject also contains a bibliography which will be of interest to anyone who wishes more knowledge concerning a subject which promises to be of great importance to the future of this country.

A DIRECTORY OF FACILITIES FOR THE HARD OF HEARING AND THE DEAF IN THE STATE OF NEW YORK. Compiled by the Temporary State Commission to Study Facilities for Hard of Hearing and Deaf Children and Adults, 480 Lexington Avenue, New York, N. Y.

The New York State Legislature of 1937 appointed the Temporary State Commission to study facilities for the hard of hearing and deaf persons, for the purpose of compiling information concerning the educational, medical, vocational, religious, and other social services for the deaf within New York State. This commission was appointed after it was found that there was generally an inadequate public knowledge concerning existing facilities for acoustically handicapped persons.

The Directory contains, among other subjects, a résumé of laws concerning the deaf and hard of hearing of New York State, organizations for the deaf, school facilities, residential schools, private schools of lip-reading, State Department services, medical services and clinics, teacher educational opportunities, services of religious nature, wired theaters, publications, and work shops.

This is an excellent compilation of material of interest to those to whom it is directed.

SUCCESS FROM TEST TUBES. A reprint from a series on vocations for women appearing in *Independent Woman*, publication of The National Federation of Business and Professional Women's Clubs, 1819 Broadway, New York, N. Y. 8½" x 11". 4 pp. Price fifteen cents.

This reprint gives an excellent summary of the position of women in the field of chemistry, including the professional activities of outstanding women now working in the field.

The woman chemist to advance should have two to four years of post graduate study. About four per cent of the chemists in America are women. Women may find it easier to obtain positions using their chemical background in the fields of research, teaching, writing, libraries, government positions, and patent work rather than in fields of general chemistry. However, the possibilities for employment as chemists are also discussed. This reprint is recommended to all young women interested in a chemistry career.

War and Its Effects on United States Imports is the title of a report issued recently by the United States Tariff Commission. During the first year following the outbreak of war in Europe, total imports into the United States increased because of marked expansion of this country's purchase of raw materials, according to the report. The source of these raw materials was principally Asia and to a lesser extent Canada, Latin America, Africa and Oceania.

Trade with Europe declined, but less than was anticipated. Copies of the complete report are available on request to the United States Tariff Commission, Washington, D. C.

MANUAL OF INDUSTRIAL HEALTH HAZARDS. By Joseph B. Ficklen, F.A.I.C. Published by *Service to Industry*, Box 133, West Hartford, Connecticut. 1940. 6" x 9". 176 pp. Price $4.00.

This manual comprises, with occurrence and uses, the properties, clinical symptomatology, permissible standards, physiological responses, and methods for the evaluation of over ninety noxious vapors, gases, and dusts.

The author is chemical engineer with the Travelers Insurance Company, Hartford, Connecticut, and he has done several years of active work in the evaluation of industrial hygiene exposures resulting from many dusts, vapors, and gases. The material in the book is not limited to his personal experiences but also includes material taken from other literature on this subject. Literature references have been given to assist those who wish more extensive sources of information.

Chapter one contains certain principles to be borne in mind when making tests and sampling the air and a discussion of simple sampling apparatus. The remaining chapters of the book are devoted to a material or family of materials which can cause an exposure, such as acetaldehyde, the butanols, chlorinated hydrocarbons, etc., alphabetically arranged.

A separate chart is included with this book, which indicates potential health hazards occurring in over one hundred manufacturing classifications. This is an excellent book on the subject which will prove most useful to those who are responsible for the prevention of industrial health hazards.

Foster D Snell, Inc., informs us that *The Chemical Digest*, a four page 8½" x 11" house organ, published twice

a year, may be obtained without charge by writing to the company at 305 Washington Street, Brooklyn, New York. It contains brief articles on things of current scientific interest as well as "paragrafacts", brief items about recent developments of popular or technical interest.

THE CHEMIST AT WORK. By Roy I. Grady, John W. Chittum and others. *Journal of Chemical Education*. 1940. 5" x 8". 422 pp. plus appendix. Price $3.00.

This book is designed to give young people interested in a career in chemistry a survey of the work of the chemist in many fields.

Fifty chapters each consider a separate industry in which the chemist may be employed. Each chapter is written by a different author whose own career exists in the subject about which he is writing.

The chemist's work is described in detail and the qualifications which he should have to succeed in it are also given. References on each occupation are included.

This is a most excellent collection of information about the work of chemists in various industries. It is recommended to all concerned with vocational guidance, and to the student who is considering chemistry as a career.

CHEMISTS

Science Has Not Failed Humanity

Professor A. J. Carlson of the University of Chicago, during the Sigma Xi lecture at the meeting of the American Association for the Advancement of Science, said that science has not failed humanity. Humanity has failed to make beneficial use of science. People who call this the age of science, said Professor Carlson, often think only of the application of science in technology and invention and the popular acceptance of these benefits. The essence of science itself is the painstaking acquisition of masses of accurately known facts, the critical and objective interpretation of these facts, and the direct application of principles thus discovered to the problems of everyday life. We are devoted to gadgetry, not to science. The great mass of humanity, still traditionalist, makes no more use of the scientific way of thinking than did pre-historic man a million years ago.

Modern science fails to influence human drives and conduct for three outstanding reasons: (1) Prevailing education from infancy through college is largely education by dictation-indoctrination rather than eduction by understanding the why and wherefore through experimentation. "You can teach a parrot to talk Latin, but the Latin-speaking bird would still be a parrot." (2) Many scientists readily abandon the scientific method of thinking as soon as they are outside their own specialty, becoming as emotional and prejudiced as any non-scientific person. (3) Man has a tremendous resistance to new ways of thinking and new ways of life. He resists science,

a comparatively recent thing, as stubbornly as he resists religion, which has been pushing at him for thousands of years.

"I think we can say, that during the ups and downs of a million years man has gradually acquired more understanding, more freedom from fear and hate, more dignity, greater kindness and a clearer conception of justice.

"For, slowly but surely, the method of science will help to make life more intelligent, toil more cheerful, fear and hatred, pain and tears less abundant for mankind. If in any place or time the blind fury of hatred and the insane violence of war render the pursuit of science impossible, and the scientific method submerged and forgotten, it will be rediscovered, in better days, by better men."

Delegates Appointed

THE AMERICAN INSTITUTE OF CHEMISTS appointed the following delegates to the annual meeting of the National Academy of Political and Social Sciences at the Benjamin Franklin Hotel in Philadelphia: Dr. Gilbert E. Seil, Dr. Glenn E. Ullyot, and Dr. Walter L. Obold.

The Charlotte, North Carolina, staff of the Southern Sales District of the American Cyanamid and Chemical Corporation recently moved into its newly constructed building which houses the offices and laboratories of the company, at 3333 Wilkinson Boulevard adjacent to the company's Charlotte plant. This is one of the steps in the expansion program which this company is carrying out in its southern territory, which extends from Virginia to Texas.

Pauline Beery Mack, F.A.I.C. Appointed Director Ellen H. Richards Institute

The Trustees of the Pennsylvania State College announce the establishment of the Ellen H. Richards Institute to study improvements in standards of living in the fields of food, clothing and shelter. The Institute will cover some of the investigations formerly carried on in the Departments of Chemistry and Home Economics, and in the Agricultural Experiment Station at Pennsylvania State College.

Studies in textile technology at the new Institute will be concentrated on investigations on the durability of textile articles in relationship to fabric construction and types of dyes, and on methods of laundering and dry cleaning.

Research studies in human nutrition will include a pioneer investigation on the relationship of dietary intake to family nutritional status, and a similar study in child nutrition. People chosen in different communities in Pennsylvania as representative of various socio-economic and racial groups are being studied in order to learn their food habits, and degree of growth, skeletal status, hemoglobin, vitamin status, and numerous other evidences of nutritional well-being.

Investigations of the suitability of many new materials for the construction of houses or parts of houses, and of the performance of various new types of household equipment, and a study of some of these physical aspects of housing are in immediate prospect in the newly created Institute.

Dr. Pauline Beery Mack, F.A.I.C., who has been on the staff of the School of Chemistry and Physics at the Pennsylvania State College since 1919 and director of research in home

economics at the College since 1935, will be the first director of the Ellen H Richards Institute. She has resigned the directorship of research in home economics to assume this responsibility. The Institute will be administered jointly through the School of Agriculture and the School of Chemistry and Physics.

Endo Products, Inc., manufacturing chemists, Richmond Hill, New York, on January thirty-first unveiled a bronze tablet in memory of the late David E. Ushkow, former president and founder of Endo Products, Inc. Dr. Roland A. Bosee, F.A.I.C., presided and spoke on the accomplishments of Mr. Ushkow. Other addresses were made by Mr. Thomas Morrison, Mr. H. L. Wellington, Dr. Henry Brody, Mrs. Anna Wiggins, and Commissioner Frederick J. H. Kracke. Laboratory, office, and plant employees of the organization, relatives and intimate friends of Mr. Ushkow attended the ceremonies. The plaque contains a sculptured portrait of Mr. Ushkow and the inscription, "In Memory of David E. Ushkow, Founder and President of Endo Products, Inc., Whose Vision, Faith and Warm Understanding Shall Ever Guide and Inspire Us. Dedicated by His Associates and Employees of Endo Products, Inc."

The appointment of Mr. J. R. Ackerman as director of merchandising and advertising, Dodge Division, Chrysler Corporation, is announced by Mr. E. J. Poag, assistant general sales manager. Mr. Ackerman has been associated with Dodge for several years as assistant director of truck merchandising at the factory in Detroit.

The meeting of the New York Branch of the American Pharmaceutical Association was held March tenth at Columbia University, College of Pharmacy, with a symposium on Hospital Pharmacy. The introductory remarks were made by Dr. J. M. McDonald, F.A.I.C., assistant professor of pharmacy, Philadelphia College of Pharmacy and Science. Morris Dauer spoke on, "More Light on Hospital Pharmacy". He was formerly chief pharmacist of Kings County Hospital and is now chief pharmacist of Metropolitan Hospital.

Gustav Egloff, F.A.I.C. left on March seventeenth for an eighteen thousand mile trip to South America as a part of the National Research Council's Good-Will and Industrial Study trip. He expects to be away several months.

Mr. T. G. Trimby was elected chairman and Dr. E. P. Partridge was elected vice-chairman of the Pittsburgh Section of the American Institute of Chemical Engineers, according to an announcement made recently.

Dow Chemical Company announces the death of their retired general branch manager, Mr. J. F. C. Hagen, of the Great Western Division, on February eighth at Menlo Park, California. Mr. R. L. Curtiss succeeded Mr. Hagen as general manager of the Great Western Division several months ago.

Pittsburgh Award to Alexander Silverman, F.A.I.C.

The American Chemical Society announces that the Pittsburgh Award for 1940, for outstanding service to chemistry, has been made to Dr. Alexander Silverman, F.A.I.C.

Dr. Silverman has served as head of the Department of Chemistry in the University of Pittsburgh for over twenty years. Under his leadership, this department of chemistry has grown from a faculty of three members and a student body of about one hundred, to a teaching staff of thirty members and a student body of fifteen hundred. Dr. Silverman is widely recognized as a progressive and inspiring teacher, whose time and energy are at the disposal of his students.

He is recognized internationally as an authority on the chemistry of glass, and he is well-known for his lectures on this subject. He has represented the National Academy of Science, the National Research Council and the American Ceramic Society in Liége, Belgium, in 1930; in Madrid, Spain, in 1934; in Lucerne, Switzerland, in 1936, and in Rome, Italy, in 1938. He is the author of over one hundred journal articles and books which deal with the teaching of chemistry, illumination, and various phases of glass technology. He owns a most representative collection of modern glass from the standpoint of art and technology. His hobbies include golf, photography, music, philosophy, and poetry.

The Pittsburgh Award was presented to Dr. Silverman at the March twentieth meeting of the Pittsburgh Section of the American Chemical Society. William Lloyd Evans, president of the American Chemical Society, spoke at this meeting on "The Chemical Behavior of Carbohydrates in Alkaline Solution".

Previous recipients of the Pittsburgh Award, which was established in 1934, are: Charles E. Nesbit, chief chemist of the Carnegie Steel Company; the late Andrew W. Mellon and the late Richard B. Mellon, donors of the Mellon Institute buildings; Francis C. Frary, director of research of the Aluminum Company of America; George H. Clapp, president of the University of Pittsburgh Board of Trustees; and Edward R. Weidlein, director of Mellon Institute of Industrial Research.

The selection of Dr. Silverman for the 1940 award was made in recognition of his outstanding service to the profession of chemical education and for his distinguished contributions to pure and applied chemistry, especially in the field of glass technology.

The Philadelphia Section of the American Chemical Society, held a symposium on "Nutrition and Longevity" at the Franklin Institute on Thursday, March twentieth.

The principal speaker was Dr. Leonard A. Maynard, head of the Laboratory of Animal Nutrition at Cornell University, and Director of the United States Plant, Soil, and Nutrition Laboratory. Other speakers included Dr. E. F. Kohman of the Campbell Soup Co., and Dr. James H. Jones of the University of Pennsylvania.

Dr. Maynard discussed the general subject of nutrition, particularly with respect to the effect of foods on length

of life. Dr. Kohman presented some interesting facts about certain vegetables, including results of his work on the lachrymating volatile constituents of onions, and the chemistry of spinach. The theme of Dr. Jones' discourse was the alleged decalcifying action of cereals.

Mr. Walter J. Murphy, F.A.I.C., was recently elected to the chairmanship of the New York Chapter of The American Institute of Chemical Engineers.

Chemical Poetry

Jerome Alexander, F.A.I.C. has presented some of his verses in two small booklets, one serious, "Essences From Life's Alembic", and the other in lighter vein, "Retorts from a Chemist's Laboratory". Both booklets are available for one dollar, and one quarter of the sum realized will be turned over to the library of The Chemists' Club, New York, N. Y. Please send subscriptions to Jerome Alexander, 50 East 41st Street, New York, N. Y.

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Applications will be rated as received at the Washington office of the United States Civil Service Commission until December 31, 1941, and certification made as the needs of the service require; except that if sufficient eligibles are obtained, the receipt of applications may be closed before this date, in which case due notice will be given.

The United States Civil Service Commission particularly desires applications from qualified persons for the Department of Interior, Bureau of Mines; and for the Department of Agriculture, Bureau of Agricultural Chemistry and Engineering, in connection with the National Defense Program. Qualified persons with experience in chemical investigative work involving the use of recently developed specialized techniques and instruments are urged to apply.

Application forms for the above United States Civil Service Examinations may be obtained from the Secretary, Board of United States Civil Service Examiners, at any first or second class post office or United States Civil Service District Offices, and from the United States Civil Service Commission, Washington, D. C. The exact title of the Examination desired should be stated.

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